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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/855,830	05/15/2001	Hector Hoyos	BIOM-0310	9662

7590

07/02/2004

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EXAMINER
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LAROSE, COLIN M

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 07/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/855,830

Applicant(s)

HOYOS ET AL.

Examiner

Colin M. LaRose

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-13 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 14-17 is/are rejected.
- 7) ☒ Claim(s) 6 and 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-5 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,428,694 by Betts et al. ("Betts") in view of U.S. Patent 5,329,382 by Mita and U.S. Patent 5,199,083 by Takeda.

Regarding claims 1 and 14, Betts discloses a method/computer system for recognizing a coupon (figure 4) comprising the steps of:

scanning the coupon to generate an electronic representation (404: completed form is scanned);

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applying a barcode search to determine whether a barcode sequence is present in the coupon (416), and if so determining the alphanumeric characters associated with the barcode sequence (420);

applying an optical character recognition search to determine whether a text string is present in the coupon (456), and if so determining the alphanumeric characters associated with the text string (460);

applying a table search to determine whether a table is present in the coupon (476), and if so determining the boundaries and position of the table on the coupon (480); and

comparing the alphanumeric characters associated with the barcode sequence (422), the alphanumeric characters associated with the text string (462), and the boundaries and position of the table (482) with a database of coupon data to determine whether the electronic representation matches a coupon type in the database of coupon data (steps 422, 462, and 482 match the barcode sequences, text strings, and tables to index values, which indicate the ID of the coupon stored in the database).

Betts does not disclose identifying connected segments within the electronic representation, and then applying a barcode search, OCR search, and table search to the connected components in order to determine the presence of barcodes, text, and tables. Rather, Betts merely discloses invoking sub-routines 416, 456, and 476 to locate the different types of information, without mention of connected segments.

Takeda discloses an image processing system (figure 2B) that assigns labels to connected components within an image. In particular, Takeda discloses that, prior to performing

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recognition processing on a document, the document is conventionally subjected to connected component labeling (column 1, lines 10-23).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Betts by Takeda to segment the coupon into connected segments and then search the blocks for the presence of barcodes, text, and tables, as claimed, since Takeda teaches that documents are conventionally segmented into connected components in order to facilitate the recognition processing of documents.

Betts is also silent to comparing segments of the electronic representation with a defined category of patterns, wherein any segments that match one of the patterns is eliminated as noise.

Mita discloses a document scanner that prevents noise by detecting and eliminating predetermined patterns that exhibit noise (see Abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Betts and Takeda by Mita to eliminate noise, as claimed, since Mita teaches that eliminating predetermined pattern segments from a scanned documents effectively eliminates noise (column 1, lines 49-66).

Regarding claims 2 and 15, Betts discloses applying skew correction to the scanned coupon (502, figure 4D) but does not appear to disclose generating a black and white bit map in a grid of rows and columns.

However, at the time of the invention, binarizing scanned documents for processing was a common practice, as shown by Mita (4, figure 1), and it would have been obvious to those

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skilled in the art to modify Betts by Mita to process a binary image, which is in a grid of rows and columns.

Regarding claim 3, Takeda teaches detecting any connected segments comprises run-length encoding the electronic representation so that each row of the grid is represented by a plurality of start and end points that represent the start and end of a continuous run of elements (figure 3: a0, a1, a2, b1, and b2 denote beginnings and ends of runs) and comparing the start and end points of adjacent rows to determine whether any start or end points fall between the start and end points of the adjacent rows (column 6, lines 29-54: b1 is detected as lying between a0 and a1).

Regarding claim 4, Mita discloses eliminating the central bit of the segments when the comparison generates a match, provided that the elimination of the central bit will not disconnect otherwise connected components (figure 2(a): the central bit "a" is eliminated upon a match, and the original connected pattern does not become erased or disconnected (column 3, lines 40-50)).

Regarding claim 5, Betts discloses creating a table of coupon data that identifies a location and value of any barcodes and character strings that are detected (figures 3D and 3E).

Regarding claim 16, Mita discloses a memory configured to store the defined set of patterns (comparators 120-123, figure 2(b)), and wherein the defined set of patterns are selected to avoid separating connected components (column 3, lines 28-50: comparators store the defined pattern values, and the values are selected so that patterns with low continuity are erased, but patterns with high continuity are not separated and erased).

Regarding claim 17, Betts discloses memory stores the database of coupon data such as shown in figure 3.

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*Allowable Subject Matter*

4. Claims 6 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter regarding claims 8-13:

The combination of Betts and Wang teach all the features of claim 8, except comparing at least one of a barcode, optical, and text character sequence to a database of vendor data to determine the vendor, as claimed, determining an expected location of a customer identifier and account balance, as claimed, and determining the customer identifier and account balance based on the expected location and the table.

Claims 8-13 are allowed.

*Conclusion*

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,357,658 by Garczynski et al.

U.S. Patent 5,721,940 by Luther et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colin M. LaRose whose telephone number is (703) 306-3489.

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The examiner can normally be reached Monday through Thursday from 8:00 to 5:30. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au, can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600 Customer Service Office whose telephone number is (703) 306-0377.



AMELIA M. AU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

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Group Art Unit 2623

27 June 2004